Fleet Ballistic Missile Submarines

Strategic nuclear deterrence has been the primary mission of U.S. nuclear-powered fleet ballistic missile submarines (SSBNs) since their inception in 1960. SSBNs are the nation's most survivable and enduring nuclear strike capable platforms. The *USS George Washington* (SSBN-598), commissioned in 1963, conducted the first submerged launch of a ballistic missile. President Kennedy observed the launch and stated:
"Once one has seen a Polaris firing, the efficacy of this weapons system as a deterrent is not debatable."

SSBN construction continued, and the "Forty-one For Freedom" fleet ballistic missile boats (FBMs or Boomers) ultimately included ships of the *Ethan Allen*, *Lafayette* and *Benjamin Franklin* classes. *Ohio* class submarines, first commissioned in 1981, replaced the aging FBMs built during the 1960's. The 18 *Ohio* class submarines, known as *Tridents* because of the missiles they carry, are each capable of carrying up to 24 submarine launched ballistic missiles (SLBM). *Tridents* are the sea-based "leg" of the U.S. strategic triad - bombers, land-based ICBMs, and SSBNs - and account for more than 54 percent of all U.S. strategic assets. The first eight *Ohio* class submarines carry the *Trident I C-4* ballistic missile. The remaining submarines of the class carry the improved *Trident II D-5* ballistic missile. Stealth is the key to SSBN survivability, and *Ohio* class submarines are among the quietest nuclear-powered submarines ever built.

***Trident* ballistic missile submarines, like the *USS Ohio* pictured above, comprise more than 54% of our nation's nuclear deterrent, but use only 34% of our strategic budget and 1.5% of naval personnel.**

Two complete crews, designated as "Blue" and "Gold," are assigned to each SSBN. While one crew operates the submarine at sea, the other attends school, conducts training, and hones their skills in shore-based simulators. The nominal operating schedule is 77 days at sea followed by a 35-day maintenance period. To reduce in-port time for crew turnover and upkeep, *Tridents* have three large logistics hatches to facilitate rapid re-supply and repair. The *Ohio* class design features and modern maintenance concepts allows these submarines to operate for over 20 years between overhauls.

During the Cold War, U.S. ballistic missile submarines provided a strategic capability that could be neither detected nor destroyed. This survivability deterred nuclear war because the Soviets knew that in the event of an attack on America and her allies U.S. SSBNs could launch a crippling retaliatory strike. SSBNs also reduced the potential for large-scale conventional war by preventing a strategic imbalance that might have encouraged Soviet aggression. Today our SSBNs continue their solemn task of deterring our adversaries from employing nuclear weapons against the U.S. and her allies.

The "Forty-one For Freedom" SSBNs

USS George Washington (SSBN-598)
USS Patrick Henry (SSBN-599)
USS Theodore Roosevelt (SSBN-600)
USS Robert E. Lee (SSBN-601)
USS Abraham Lincoln (SSBN-602)
USS Ethan Allan (SSBN-608)
USS Sam Houston (SSBN-609)
USS Thomas A. Edison (SSBN-610)
USS John Marshall (SSBN-611)
USS Lafayette (SSBN-616)
USS Alexander Hamilton (SSBN-617)
USS Thomas Jefferson (SSBN-618)
USS Andrew Jackson (SSBN-619)
USS John Adams (SSBN-620)
USS James Monroe (SSBN-622)
USS Nathan Hale (SSBN-623)
USS Woodrow Wilson (SSBN-624)
USS Henry Clay (SSBN-625)
USS Daniel Webster (SSBN-626)
USS James Madison (SSBN-627)
USS Tecumseh (SSBN-628)
USS Daniel Boone (SSBN-629)
USS John C. Calhoun (SSBN-630)
USS Ulysses S. Grant (SSBN-631)
USS Von Steuben (SSBN-632)
USS Casimir Pulaski (SSBN-633)
USS Stonewall Jackson (SSBN-634)
USS Sam Rayburn (SSBN-635)
USS Nathanael Greene (SSBN-636)
USS Benjamin Franklin (SSBN-640)
USS Simon Bolivar (SSBN-641)
*USS Kamehameha (SSBN-642)**
USS George Bancroft (SSBN-643)
USS Lewis & Clark (SSBN-644)
USS James K. Polk (SSBN-645)
USS George C. Marshall (SSBN-654)
USS Henry L. Stimson (SSBN-655)
USS George Washington Carver (SSBN-656)
USS Francis Scott Key (SSBN-657)
USS Mariano G. Vallejo (SSBN-658)
USS Will Rogers (SSBN-659)

***Still in service as SSN-642**

Ohio Class SSBNs

USS Ohio (SSBN-726)
USS Michigan (SSBN-727)
USS Florida (SSBN-728)
USS Georgia (SSBN-729)
USS Henry M. Jackson (SSBN-730)
USS Alabama (SSBN-731)
USS Alaska (SSBN-732)
USS Nevada (SSBN-733)
USS Tennessee (SSBN-734)
USS Pennsylvania (SSBN-735)
USS West Virginia (SSBN-736)
USS Kentucky (SSBN-737)
USS Maryland (SSBN-738)
USS Nebraska (SSBN-739)
USS Rhode Island (SSBN-740)
USS Maine (SSBN-741)
USS Wyoming (SSBN-742)
USS Louisiana (SSBN-743)

General Characteristics, *Benjamin Franklin* Class SSBN

Builders:	Mare Island NSY, CA; General Dynamics Electric Boat Division, CT
Power Plant:	One nuclear reactor, one shaft
Length:	425 feet (129.5 meters)
Beam:	33 feet (10.1 meters)
Displacement:	Approx. 8,250 tons (8382 metric tons) submerged
Speed:	20+ knots (37+ kph)
Crew:	Two (Blue and Gold) 13 Officers, 120 Enlisted per crew
Armament:	16 missile tubes for *Poseidon or Trident I*, four 21-inch (533 mm) torpedo tubes for Mk 48 torpedoes
Date Deployed:	22 October 1965 (*USS Benjamin Franklin)*

General Characteristics, *Ohio* Class SSBN

Builders:	General Dynamics Electric Boat Division, CT
Power Plant:	One nuclear reactor, one shaft
Length:	560 feet (170.7 meters)
Beam:	42 feet (13 meters)
Displacement:	16,764 tons surfaced, 18,750 tons submerged (17033/19000 metric tons)
Speed:	25+ knots (46+ kph)
Crew:	Two (Blue and Gold) 15 Officers, 148 Enlisted per crew
Armament:	24 tubes for *Trident I* and *II*, four 21-inch (533 mm) torpedo tubes for Mk 48 torpedoes
Date Deployed:	11 November 1981 (*USS Ohio*)

General Characteristics, *Trident I (C4)* *Trident II (D5)* Missiles

Propulsion:	Three-stage solid-propellant rocket	Three-stage solid-propellant rocket
Length:	34 feet (10.2 meters)	44 feet (13.4 meters)
Weight:	73,000 pounds (33030 kg)	130,000 pounds (58820 kg)
Diameter:	74 inches (180 centimeters)	83 inches (210 centimeters)
Range:	4,000 nautical miles (7360 km)	Greater than 4,000 nautical miles (7360 km)
Guidance:	Inertial	Inertial
Warheads:	Nuclear MIRV (Multiple Independently Targetable Re-entry Vehicle)	(Same as *Trident I*)
Date Deployed:	1979	1990